

**38th Annual Meeting, APS Division of Plasma Physics
11-15 November 1996—Denver, CO**

ABSTRACT SUBMITTAL FORM

Subject Classification Category 1.11 ☒ Theory ☐ Experiment

Low Temperature Plasma Ablation* D. C. Eder, J. N. Bardsley, C. D. Boley, M. D. Feit, A. E. Koniges, M. R. Kozlowski, R. A. London, B. M. Penetrante, and S. Rubenchik, *Lawrence Livermore National Laboratory*, H. Würz and F. Kappler, *Forschungszentrum, Karlsruhe*, Plasma ablation is relatively well understood at high temperatures, where a hydrodynamic treatment is appropriate, and evaporation models can be used when the surface temperatures are below the critical temperature. However, for surface temperatures in the range from 0.1 to 5 eV, the ablation process is less understood. This temperature regime is encountered in our modeling of damage to NIF optics associated with laser heating of surface particles, laser drilling of metals, and ablation of divertor plates during disruptions in the ITER tokamak. We discuss the transition from a kinetic treatment at low temperatures to an hydrodynamic treatment at high temperatures.

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